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Before the
FEDERAL COMMUNICATIONS COMMISSION
Washington, D.C. 20554

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In the Matter of)	
)	
Amendment of Parts 1, 21 and 74 to Enable)	MM Docket No. 97-217
Multipoint Distribution Service)	
and Instructional Television Fixed)	File No. RM-9060
Service Licensees to Engage in Fixed)	
Two-Way Transmissions)	

**REPLY COMMENTS OF THE
COMMUNITY TELECOMMUNICATIONS NETWORK**

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Dated: February 9, 1998

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EXECUTIVE SUMMARY

The Detroit metropolitan area Community Telecommunications Network (the "Detroit ITFS Group") is generally supportive of the Commission's efforts in amending its rules to enhance the ability of Multipoint Distribution Service ("MDS") and Instructional Television Fixed Service ("ITFS") licensees to provide two-way communications services.

Despite the potential benefits to the ITFS service, however, the Detroit ITFS Group is concerned that certain aspects of the newly conceptualized framework for digital, cellularized communications in the MDS and ITFS services might inadvertently have the effect of degrading existing ITFS services and hamstringing the ability of ITFS licensees to expand their systems in the future. In particular, the Detroit ITFS Group is concerned regarding the expanded potential for interference that the two-way transmission environment poses to the ITFS service.

It is essential that the Commission ensure interference protection and flexibility for both MDS and ITFS, including enabling ITFS licensees to expand their analog capabilities and/or venture into digital transmission without necessarily requiring the cooperation of one or more MDS licensees. Thus, the Commission should, among other modifications to the proposed regulatory framework, extend interference protection in 35-mile protected service areas to ITFS licensees, regardless of whether such licensees lease excess capacity to local wireless cable operators and regardless of receive antenna heights within such protected service areas.

In addition, the Commission should grant ITFS licensees at least the same regulatory flexibility as that to be accorded wireless cable operators in this proceeding. Moreover, in order to guarantee that ITFS licensees will be protected without forcing them to expend scarce resources on evaluating MDS expansion applications, the Commission should place the responsibility to cure interference to ITFS systems on wireless cable operators.

It is imperative that the Commission ensure that any rules it adopts to achieve the goals articulated in the *NPRM* do not compromise the integrity of existing ITFS facilities or the future needs of the ITFS service. In this regard, modification of the Commission's rules in a way that provides adequate interference protection to, and preserves the future flexibility of, ITFS licensees -- while still providing for the reasonable and legitimate needs of MDS operators -- is possible, and would serve the public interest.

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The Community Telecommunications Network (hereinafter referred to as the "Detroit ITFS Group") hereby replies to the comments submitted by various parties in response to the Commission's October 10, 1997, *Notice of Proposed Rulemaking* ("NPRM") in the captioned proceeding.

I. INTRODUCTION

The Detroit ITFS Group is a nonprofit corporation founded in 1989 by the Instructional Television Fixed Service ("ITFS") licensees in the Detroit, Michigan, area listed below.^{1/} The Detroit ITFS Group was created to coordinate the relevant

^{1/} The Detroit ITFS Group's members (and their call signs) are as follows: Detroit Educational Television Foundation (WHR915); Detroit Public Schools (KTB98); Macomb Intermediate School District (WHR914); Oakland Intermediate School District (WHR508); Wayne County Regional Educational Service Agency (WHR916); and Wayne State University (WAK57).

activities of these licensees, including the construction, operation and maintenance of colocated transmission and production facilities. In addition, the Detroit ITFS Group acts as the interface point between these licensees and the Detroit area wireless cable operator; the Detroit ITFS Group leases excess capacity from its individual members and subleases capacity to the wireless cable operator.

The Detroit ITFS Group is generally supportive of the Commission's efforts in amending its rules to enhance the ability of Multipoint Distribution Service ("MDS") and ITFS licensees to provide two-way communications services. As noted by the Commission in the *NPRM*, enhancing the two-way capabilities of the MDS and ITFS services benefits ITFS licensees both directly and indirectly.^{2/} Among the direct benefits of the proposed rules would be the increased ability of ITFS licensees to provide high-speed Internet access to schools, both as a service in and of itself and as an enhanced educational delivery mechanism offering two-way distance education, interactive multimedia, and other services. In addition, the proposed rules could benefit ITFS licensees indirectly by enhancing the competitive position of wireless cable operators who lease excess ITFS channel capacity. As noted in the comments submitted by the Wireless Cable Association International, Inc. in this proceeding, leasing excess ITFS capacity presently generates revenues that may be vital to the

^{2/} Amendment of Parts 1, 21 and 74 to Enable Multipoint Distribution Service and Instructional Television Fixed Service Licensees to Engage in Fixed Two-Way Transmissions, FCC 97-360, MM Docket No. 97-217, at ¶¶ 6, 64 (Oct. 10, 1997).

continued operation of certain ITFS systems and to the rapid deployment of others.^{3/}

Assuming the existence of an appropriate regulatory structure, the future success of wireless cable can further enhance this indirect benefit to ITFS licensees.

Despite these potential benefits, however, the Detroit ITFS Group is concerned that certain aspects of the newly conceptualized framework for digital, cellularized communications in the MDS and ITFS services might inadvertently have the effect of degrading existing ITFS services and hamstringing the ability of ITFS licensees to expand their systems in the future. The following discussion will endeavor to address these concerns.

II. DISCUSSION

At the outset, it must be noted that some members of the Detroit ITFS Group operated extensive ITFS systems well before the Commission's 1983 effort to reinvigorate the MDS industry by making new channel capacity available (both through the reallocation of the E and F Groups and through permitting the leasing of excess ITFS channel capacity).^{4/} Indeed, even the most recently established systems that operate under the Detroit ITFS Group umbrella were licensed at least five years prior to the establishment of a relationship with a wireless cable operator. Thus, the scope

^{3/} Comments of the Wireless Cable Association International, Inc., et al., (collectively, "WCAI") at 8.

^{4/} Amendment of Parts 2, 21, 74 and 94 of the Commission's Rules and Regulations in Regard to Frequency Allocation to the Instructional Television Fixed Service, the Multipoint Distribution Service, and the Private Operational Fixed Microwave Service, 94 F.C.C.2d 1203 (1983) ("1983 Report and Order").

of the Detroit area's ITFS operations (including the number and geographic distribution of receive sites, the number of students served, and the diversity of courses and programs offered) most likely far exceeds that of many ITFS systems, particularly those recently established exclusively through the largess of a local wireless cable operator.

The Detroit ITFS Group is particularly concerned regarding what appears to be the belief expressed in the *NPRM* that excess capacity lease agreements among MDS and ITFS licensees are alone adequate to ensure that ITFS licensees' growth will not be constrained by MDS operators; current regulatory protections for the ITFS service are apparently deemed sufficient. In this regard, the long experience of the Detroit ITFS Group's members affords them a perspective perhaps not available to newer ITFS licensees. In the absence of significant modification to certain rules or regulations, particularly those regarding interference protection, many recently established ITFS systems may never be able to expand their systems beyond what exists today. Moreover, even robust systems, such as those that exist in Detroit, may be unable to realize their full potential, as they may find their ability to develop, for example, new, fully interactive educational programs thwarted by regulations intended to encourage the growth of wireless cable systems.

In short, such a result would greatly disserve the public interest and would be flatly inconsistent with all prior Commission efforts to balance the sometimes competing interests of the wireless cable and ITFS communities. Historically, the

Commission has always found that the educational mission should take precedence over the delivery of entertainment and other commercial services.^{5/} There is nothing in the record in this proceeding to justify a departure from these precedents.

Given the plethora of new wireless data services either presently available or soon to be deployed (e.g., DEMS, LMDS, and services from both GEO and NGSO satellite systems), sacrificing the future of ITFS solely to facilitate MDS operators' entry into that market cannot be justified. However, modification of the Commission's rules in a way that provides adequate interference protection to, and preserves future flexibility of, ITFS licensees -- while still providing for the reasonable and legitimate needs of MDS operators -- is possible, and would serve the public interest.

A. The Commission Must Take an Active Role in Overseeing MDS and ITFS Rather Than Relying on Contracts to Resolve Outstanding Issues.

The Detroit ITFS Group and its members have been party to an excess capacity leasing agreement with a wireless cable operator since late 1994; the negotiations that culminated in that agreement began in mid-1993. Based upon its experience, the Detroit ITFS Group believes that ITFS/wireless cable partnerships can

^{5/} In 1990, for example, the Commission reaffirmed its commitment to the further development of ITFS and endeavored to provide ITFS licensees as much latitude as possible in designing and operating their systems. Amendment of Parts 21, 43, 74, 78 and 94 of the Commission's Rules Governing Use of the Frequencies in the 2.1 and 2.5 GHz Bands Affecting: Private Operational-Fixed Microwave Service, Multipoint Distribution Service, Multichannel Multipoint Distribution Service, Instructional Television Fixed Service, and Cable Television Relay Service, 5 F.C.C. Rcd. 6410 at ¶ 7 (1990) ("1990 Report and Order").

provide significant benefits to ITFS licensees, including offering ITFS licensees the potential to enhance their financial and technical capability and to provide more and better educational services. The Detroit ITFS Group also knows, however -- both from its own experiences as well as from watching the development of systems in other locales -- that MDS/ITFS agreements cannot provide ITFS licensees with all of the interference protections they may need. Moreover, even ITFS/MDS relationships that begin with great promise can unravel for a number of reasons. Contracts can and do expire. Contracts cannot necessarily protect a market from interference from outside of its boundaries. Even within a market, certain licensees may not join an ITFS/wireless cable partnership. In such circumstances, Commission regulations become ITFS licensees' ultimate protection against adverse actions -- intentional or inadvertent -- by MDS and other ITFS operators.

Two-way transmission in the MDS and ITFS services suggests unforeseen possibilities for interference and other complicated technical issues. Rather than rely on contracts as the default solution, as several commenters advocate, the Commission must create a well-considered framework that ensures interference protection and flexibility for both MDS and ITFS.

The argument that regulation will erode wireless cable's competitive potential as the industry confronts new, "minimally-regulated" market entrants, such as LMDS, WCS, GWCS, and 39 GHz service, is beside the point.^{6/} It ignores the fact

^{6/} WCAI Comments at 5.

that the Commission can afford only minimal regulation of these services because they do not hold the potential for interfering with, or stunting the growth of, an existing educational service. In the wireless cable context, on the other hand, the Commission must address such issues and develop a framework for their resolution so that ITFS remains "a vital part of this country's educational landscape."^{7/}

B. The Regulations Must Accommodate the Expansion Needs of ITFS.

The *NPRM* seems to assume that only wireless cable operators are interested in, and capable of, upgrading to digital, two-way transmission. In fact, however, the Detroit ITFS Group's members, to provide one example, may well wish to deploy advanced technologies independently of the local wireless cable operator should the existing lease agreement terminate or fail. In this regard, the Detroit ITFS Group's members are especially concerned that the current rules, modified as proposed in the *NPRM*, could inadvertently impair the ability of ITFS licensees to either expand their existing ITFS systems or cellularize their systems because of inadequate interference protection.

Even the most farsighted ITFS/MDS agreement cannot protect against interference from outside markets, from split markets, or from the local MDS operator(s) after the expiration of that agreement. The Commission should therefore develop a framework -- including interference protection to ITFS licensees beyond existing registered receive sites, and regulatory flexibility at least comparable to that

^{7/} 1990 Report and Order at ¶ 7.

granted to wireless cable -- that would enable ITFS licensees to expand their analog capabilities and/or venture into digital transmission without requiring the cooperation of one or more MDS licensees.^{8/}

The rules proposed in the *NPRM* focus on the protection of existing registered receive sites, while offering little mention of the procedures and protections which would be applicable to new ITFS receive sites in the two-way transmission environment; the proposed rules would thus appear to preclude the addition of new sites. WCAI asserts that its proposal is "entirely safe to incumbents, who are assured that any impermissible harmful electrical interference"^{9/} to "a protected MDS or registered ITFS receive site"^{10/} must be cured by the wireless cable operator. However, by defining protected MDS and registered ITFS receive sites as those that were "installed prior to the installation of the [wireless cable operator's digital] transceiver," WCAI's alleged protection is somewhat illusory; it protects, at best, only the status quo.^{11/} Indeed, because the interference calculations in WCAI's proposal are

^{8/} It should be noted that WCAI's contention that one-way services are "becoming obsolete" is inaccurate. See WCAI Comments at 10. Rather, ITFS licensees should have the flexibility to meet diverse educational needs by, e.g., expanding one-way transmission capabilities, supplementing one-way services with some two-way services, or transitioning entirely to two-way transmission.

^{9/} WCAI Comments at vi.

^{10/} Id. at 74 n.118.

^{11/} Id.

based on existing ITFS receive sites,^{12/} the proposed rules could permit all kinds of *permissible* harmful interference, which wireless cable operators would not be required to cure, to new ITFS receive sites.^{13/}

Such a regulatory framework -- i.e., one that forecloses the opportunity to ITFS licensees to expand and develop their systems at their own pace -- is nothing less than a *de facto* reallocation of the ITFS spectrum to wireless cable operators, which reallocation would leave ITFS licensees unable to expand independently beyond their present systems and entirely reliant on wireless cable operators for interference protection and growth opportunities.^{14/}

C. The Commission Should Extend PSA Protection to ITFS Licensees and Permit Them the Same Regulatory Flexibility Accorded to Wireless Cable Operators.

In acknowledging the growth potential of ITFS, the Commission should grant interference protection in 35-mile protected service areas ("PSAs") to ITFS licensees who have such PSAs, regardless of whether such licensees lease excess

^{12/} See, e.g., WCAI's assertion that knowledge of existing receive sites will allow them to design their systems to avoid cochannel and adjacent channel interference and downconverter overload. WCAI Comments at 34 n.64, 92.

^{13/} Such, in fact, is WCAI's intention. See, e.g., WCAI Comments at 24 n.40 (urging the Commission to clarify that "impermissible" interference does not include interference caused to receive locations "that became entitled to protection after the advanced technology facility was developed").

^{14/} In many respects, this result could freeze the entire ITFS community to its existing facilities, just as the Commission "grandfathered" E and F group ITFS licensees after the 1983 reallocation but prohibited them from any sort of meaningful system expansion. See 1983 Report and Order at ¶ 85(c).

capacity to local wireless cable operators and regardless of receive antenna heights within such PSAs. In addition, the Commission should permit ITFS licensees at least the same regulatory flexibility, including the ability to obtain licenses based upon geographic area, as that accorded to wireless cable operators.

PSA protection is currently granted to an ITFS licensee only when such licensee has entered into an excess capacity lease agreement (and only during such time that the ITFS spectrum is being employed for commercial services).^{15/} Once the excess capacity lease agreement terminates or expires, moreover, it appears that PSA protection for such ITFS licensee would also expire.^{16/} For ITFS licensees that do not lease capacity at all, the sole interference protection currently granted by the Commission's rules is protection of existing registered receive sites.^{17/}

^{15/} Each ITFS "licensee who proposes to lease excess capacity to a 'wireless cable' operator . . . must be protected from . . . interference for the hours of such transmissions within a protected service area," provided that such protection is requested in writing by the ITFS licensee. 47 C.F.R. § 74.903(d)-(e) (1997).

^{16/} See Amendment of Parts 21 and 74 of the Commission's Rules With Regard to Filing Procedures in the Multipoint Distribution Service and in the Instructional Television Fixed Service and Implementation of Section 309(j) of the Communications Act -- Competitive Bidding, 10 F.C.C. Rcd. 13821 at ¶ 36 (1995) (suggesting that an ITFS licensee should have the flexibility to change its protected service area in the event that it ceases to lease channels to a particular wireless cable system and instead enters into an agreement to lease capacity to a different entity). By implication, an ITFS licensee that ceases to lease excess capacity altogether would lose its PSA protection; the Commission's rules are not entirely clear on this point, however.

^{17/} See, e.g., *id.* at ¶ 37 (stating that the Commission is "mindful that some ITFS licensees are not involved in a wireless cable system and have interference protection only to registered receive sites" and assuring those licensees that the
(continued...)

In its comments, WCAI claims that, "in deference to the long-standing opposition of the ITFS community to the awarding of PSA protection to ITFS licensees that do not lease excess capacity, the Petitioners have not proposed that such licensees be entitled to actual protection from harmful interference within a PSA."^{18/} WCAI then cites a 1990 proceeding in support of the proposition that the ITFS community opposes PSA protection.^{19/} In fact, at the time of the 1990 proceeding, receive site protection better suited the needs of the ITFS community because PSA protection then extended only 15 miles from a transmitter, while ITFS receive sites were in some instances unevenly distributed in different directions, farther than 15 miles from ITFS transmitters, and/or higher than thirty feet. Today, however, PSA protection extends 35 miles, a distance that would accommodate the needs of many more ITFS systems and would eliminate the need for registering individual receive sites in most instances. Indeed, PSA protection could allay the concerns of many ITFS licensees regarding potential interference from outside markets, and would allow ITFS licensees to expand within their PSAs while still being protected from wireless cable operators within their markets.

^{17/} (...continued)
protection only to registered receive sites" and assuring those licensees that the Commission's amended rules in the subject proceeding "will not alter the current interference protection rules for ITFS receive sites").

^{18/} WCAI Comments at 25 n.42.

^{19/} 1990 Report and Order at ¶¶ 57-59.

In order to provide interference protection comparable to what is currently afforded to ITFS licensees, moreover, the Commission should grant protection to such licensees in 35-mile service areas regardless of receive antenna heights within such PSAs. In defining interference criteria within MDS protected service areas in 1984, the Commission found 30 feet to be representative of the actual height at which antennas would be mounted on private residences.^{20/} Signal propagation at 2.5 GHz for video or any wideband application depends on line-of-sight conditions between transmitter and receiver. In most areas of the country, trees near the receive site become the limiting factor on achieving the desired line-of-sight condition; antenna heights well above 30 feet are usually required. In urban areas, nearby tall buildings also create the need for higher receive antennas. Furthermore, because the schools, libraries and other buildings upon which ITFS licensees frequently mount receive antennas are often higher than 30 feet, strict adherence to the 30-foot reference antenna standard renders interference protection practically meaningless for many ITFS licensees, both with regard to their existing systems as well as in the context of the range of new sites where it would be feasible for ITFS licensees to install additional receive antennas. To be fully effective, therefore, affording ITFS licensees PSA protection must include the ability to protect receive sites in excess of 30 feet in height within those PSAs.

^{20/} Amendment of Parts 21, 74 and 94 of the Commission Rules and Regulations With Regard to Technical Requirements Applicable to the Multipoint Distribution Service, the Instructional Television Fixed Service and the Private Operational-Fixed Microwave Service (OFS), 98 F.C.C.2d 68 at ¶ 114 (1984).

In addition to extending PSA protection to ITFS licensees, the Commission should grant ITFS licensees at least the same regulatory flexibility as that accorded wireless cable operators, including licensing based on geographic area rather than site-based licensing. In its comments, WCAI argues in support of a geographic licensing approach for wireless cable, similar to that adopted by the Commission in the Specialized Mobile Radio and Multiple Address Systems services.^{21/} Such an approach would allow licensees to build and modify their systems without needing to obtain Commission authorization for each site, and would reduce administrative burdens since licensees would be required to file fewer license applications. The Detroit ITFS Group supports this proposed use of a geographic area licensing scheme, so long as it would apply equally to both ITFS and wireless cable and ensure protection against interference and flexibility for future expansion for ITFS licensees.

D. The Commission Should Require Wireless Cable Operators to Be Responsible for Curing Any Interference to ITFS Systems.

In its comments, WCAI expresses confidence that its proposed rules will not create any undue interference problems for ITFS licensees. WCAI asserts that its proposal "is entirely safe to incumbents" and then later maintains that "the potential for [brute force] overload will not even be a consideration with respect to over 99% of response station installations."^{22/} As proof of its assurance, WCAI points to the MDS

^{21/} WCAI Comments at 26-28.

^{22/} WCAI Comments at vi, vii; see also WCAI Comments at 73-90 (claiming that at least 12 mitigation techniques are available to avoid potential overload or to
(continued...)

industry's readiness to invest hundreds of millions of dollars in the proposed technologies.^{23/}

It is not at all clear that the industry's willingness to spend substantial sums on upgrading MDS systems necessarily guarantees that ITFS licensees will be protected. The latter does not logically flow from the former; indeed, it could be argued that just the opposite is the case. Nonetheless, in light of the confidence expressed by WCAI, placing the responsibility to cure interference to ITFS systems on wireless cable operators would not appear to be unduly burdensome, unfair or otherwise inappropriate. Such a solution should include, *inter alia*, imposing on the MDS operator the responsibility to prevent or cure interference to protected MDS and registered ITFS receive sites installed prior to the installation of digital transceivers,^{24/} as well as to prevent or cure interference to ITFS systems as they may in the future expand. This would do much to relieve ITFS licensees from having to make possibly speculative evaluations regarding potential interference in response to MDS expansion applications. Otherwise, ITFS licensees may very well feel compelled to file protective petitions to deny that might be unnecessary. Considering the multitude of applications which will undoubtedly be submitted to the Commission upon the adoption of rules facilitating two-way transmission, steps should be taken to minimize the need for such

^{22/} (...continued)
cure any overload which may occur).

^{23/} WCAI Comments at 21.

^{24/} As proposed by WCAI. See WCAI Comments at 74 n.118.

litigation; certainly, it is in the interest of MDS licensees not to have the processing of their digital applications unnecessarily delayed.

Moreover, relying solely on an ITFS licensee's "full and fair opportunity" to petition to deny any application which is deemed to interfere with an ITFS system^{25/} not only ignores the above-described issue of unnecessary litigation, but also would force ITFS licensees to expend scarce resources better directed toward education. The Commission should make every effort to craft rules that do not encourage either of these outcomes.

It is therefore imperative that the Commission include in the rules adopted in this proceeding adequate interference protections for ITFS systems, both as they currently exist and as they may expand in the future, and that the Commission place the responsibility of preventing or curing interference on wireless cable operators.

^{25/} WCAI Comments at 31.

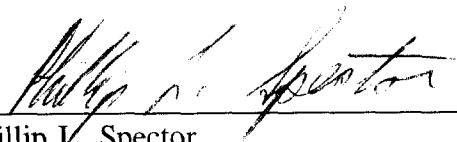
III. CONCLUSION

The Detroit ITFS Group supports the Commission's goals in this proceeding, but cautions the Commission that recognition of ITFS' future need to expand -- possibly independently of wireless cable -- is indispensable. The Commission should ensure that any rules it adopts to achieve the goals articulated in the *NPRM* do not compromise the integrity of existing ITFS facilities or the future needs of the ITFS service.

Respectfully submitted,

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